

Listing of the Claims

No amendments to the claims are presented.

1. (*Previously presented*) A load line regulated switched mode power converter for supplying an output voltage and an output current to a load, the switched mode power converter comprising:

an inductor, a switch coupled to the inductor, a first impedance, a second impedance, and

a power converter controller including:

a first sense circuit for obtaining momentary information on a first current flowing through the first impedance, the first current being related to the output current,

means for determining a difference between a zero load voltage and the output voltage to obtain a difference signal,

a second sense circuit for obtaining further information on a second current flowing through the second impedance, the second current being related to the first current,

an integrator for integrating a difference between the further information and the difference signal to obtain a correction signal, and

a switch controller for receiving the difference signal, the momentary information and the correction signal to control the switch for obtaining a substantially zero correction signal in a steady state.

2. (*Previously Presented*) A switched mode power converter as claimed in claim 1, wherein the momentary information has a bandwidth for instantaneously regulating the power converter, and wherein the further information has a further bandwidth lower than the first mentioned bandwidth.

3. (*Previously Presented*) A load line regulated switched mode power converter for supplying an output voltage and an output current to a load, the switched mode power converter comprising:

an inductor, a switch coupled to the inductor, a first impedance, a second impedance, and

a power converter controller including:

a first sense circuit for obtaining momentary information on a first current flowing through the first impedance, the first current being related to the output current,

means for determining a difference between a zero load voltage and the output voltage to obtain a difference signal,

a second sense circuit for obtaining further information on a second current flowing through the second impedance, the second current being related to the first current,

an integrator for integrating a difference between the further information and the difference signal to obtain a correction signal, and

a switch controller for receiving the difference signal, the momentary information and the correction signal to control the switch for obtaining a substantially zero correction signal in a steady state, the switch controller including:

a driver for receiving a first driver signal and a second driver signal to operate the switch when a level of the first driver signal reaches a level of the second driver signal, and

means for receiving the correction signal for correcting either:

(i) the momentary information to obtain corrected momentary information, wherein the first driver signal is the corrected momentary information and the second driver signal is the difference signal, or

(ii) the difference signal to obtain a corrected difference signal, wherein the first driver signal is the momentary information and the second driver signal is the corrected difference signal, or

(iii) the momentary information to obtain corrected momentary information and the difference signal to obtain a corrected difference signal, wherein the first driver signal is the corrected momentary information and the second driver signal is the corrected difference signal.

4. *(Previously Presented)* A switched mode power converter as claimed in claim 3, wherein the means for receiving the correction signal comprises a multiplier receiving the difference signal and the correction signal to supply a multiplied difference signal as the corrected difference signal.
5. *(Previously Presented)* A switched mode power converter as claimed in claim 3, wherein the means for receiving the correction signal comprises a multiplier receiving the momentary information and the correction signal to supply multiplied momentary information as the corrected momentary information.
6. *(Previously Presented)* A switched mode power converter as claimed in claim 3, wherein the means for receiving the correction signal comprises means for introducing an offset receiving the difference signal and the correction signal to supply the corrected difference signal having an offset.
7. *(Previously Presented)* A switched mode power converter as claimed in claim 3, wherein the means for receiving the correction signal comprises means for introducing an offset receiving the momentary information and the correction signal to supply the corrected momentary information having an offset.
8. *(Previously Presented)* A switched mode power converter as claimed in claim 4, wherein the power converter controller comprises a load determining circuit for supplying a load signal indicating whether a load condition of said power converter is above a first predetermined load condition and a window circuit for controlling the integrator to determine the correction signal only during a period in time the load signal indicates that the load condition is above the first predetermined load condition to obtain predominantly a correction of a slope of the load line.
9. *(Previously Presented)* A switched mode power converter as claimed in claim 6, wherein the power converter controller comprises a load determining circuit for

supplying a load signal indicating whether a load condition of said power converter is below a second predetermined load condition, and a window circuit for controlling the integrator to determine the correction signal only during a period in time the load signal indicates that the load condition is below the second predetermined load condition to obtain predominantly a DC-shift of the load line.

10. (*Previously Presented*) A switched mode power converter as claimed in claim 3, wherein:

the means for receiving the correction signal comprises a multiplier receiving:

(i) the difference signal and a first correction signal to supply the corrected difference signal being a multiplied difference signal, or

(ii) the momentary information and the first correction signal to supply the corrected momentary information being multiplied momentary information,

the means for receiving the correction signal further comprises means for introducing an offset receiving:

(i) the difference signal and a second correction signal to supply the corrected difference signal being the difference signal having an offset, or

(ii) the momentary information and the second correction signal to supply the corrected momentary information being the momentary information having an offset,

the power converter controller comprises a load determining circuit for supplying a load signal indicating whether a load condition of said power converter is above a first predetermined load condition or below a second predetermined load condition and a window circuit for controlling the integrator to determine the first correction signal only during a period in time the load signal indicates that the load condition is above the first predetermined load condition, and to determine the second correction signal only during a period in time the load signal indicates that the load condition is below the second predetermined load condition, and wherein the first predetermined load condition is higher than the second predetermined load condition.

11. *(Previously Presented)* A switched mode power converter as claimed in claim 9, wherein said power converter comprises storage means for storing the first correction signal and the second correction signal.
12. *(Previously Presented)* A switched mode power converter as claimed in claim 8, wherein the load condition is determined by the level of the output voltage, or by the level of the difference signal or by the output current or by a current related to the output current.
13. *(Previously Presented)* A switched mode power converter as claimed in claim 1, wherein the first impedance and the second impedance are the same common resistor and wherein the first current and the second current are the same current.
14. *(Previously Presented)* A switched mode power converter as claimed in claim 1, wherein the first impedance is an impedance of the main current path of the switch.
15. *(Previously Presented)* A switched mode power converter as claimed in claim 1, wherein the first impedance is arranged in series with the inductor.
16. *(Previously Presented)* A switched mode power converter as claimed in claim 1, wherein the second impedance is arranged between an input of the power converter and a main current path of the switch for sensing an average input current of the power converter.
17. *(Previously Presented)* A switched mode power converter as claimed in claim 13, wherein the power converter is a down-converter comprising a series arrangement of main current paths of the first mentioned switch and a further switch, the inductor being arranged between a junction of the main current paths and an output of the power converter, and wherein the common resistor is arranged in series with the main current path of the first mentioned switch.

18. (*Previously Presented*) A switched mode power converter as claimed in claim 1, wherein the means for determining the difference comprises a third resistor arranged between a reference voltage and the output voltage to obtain a difference voltage across the third resistor the difference signal being related to the difference voltage.

19. (*Previously Presented*) A switched mode power converter as claimed in claim 18, wherein

the means for determining the difference is arranged to supply a difference current being related to the voltage across, or a current through the third resistor,

the second sense circuit is arranged for supplying an information current being related to the voltage across or the current through the second impedance, and

the integrator comprises a capacitor for integrating the difference current and the information current to obtain the correction signal.

20. (*Previously Presented*) A switched mode power converter as claimed in claim 1, wherein

the power converter is a down-converter comprising a series arrangement of main current paths of the first mentioned switch and a further switch the inductor being arranged between a junction of the main current paths and an output of the power converter,

a smoothing capacitor is coupled to a terminal of the main current path of the first mentioned switch directed towards the input of the power converter, and

the second impedance is arranged between the input of the power converter and the main current path of the first mentioned switch.

21. (*Previously Presented*) A switched mode power converter as claimed in claim 20, wherein the means for determining the difference comprises a third resistor arranged between a reference voltage and the output voltage to obtain a difference voltage across the third resistor the difference signal being related to the difference voltage.

22. (*Previously Presented*) A switched mode power converter as claimed in claim 21, wherein:

the means for determining the difference is arranged to supply a difference current being related to the voltage across, or a current through the third resistor,

the second sense circuit is arranged for supplying an information current being related to the voltage across or the current through the second impedance, and

the integrator comprises a capacitor for integrating the difference current and the information current to obtain the correction signal.

23. (*Cancelled*)

24. (*Original*) An electronics apparatus comprising the switched mode power converter of claim 1.

25. (*Previously Presented*) An electronics apparatus as claimed in claim 24, comprising a personal computer the output current of the switched mode power converter of claim 1 being supplied to a processor of the personal computer.

26. (*Previously Presented*) A power converter controller for controlling a load line regulated power converter having a switch, the power converter controller comprising:

a first sense circuit for obtaining momentary information on a first current flowing in the power converter, the first current being related to an output current of the power converter,

means for determining a difference between a zero load voltage and an output voltage of the power converter to obtain a difference signal,

a second sense circuit for obtaining further information on a second current flowing in the power converter, the second current being related to the first current,

an integrator for integrating a difference between the further information and the difference signal to obtain a correction signal, and

a switch controller for receiving the difference signal, the momentary information and the correction signal to control the switch for obtaining a substantially zero correction signal in a steady state.

27. *(Cancelled)*